

IN THE CLAIMS

1. (Currently Amended) A multiprocessor system, comprising:

a processing sub-system including a plurality of processors and a processor memory system;

a network operable to couple the processing sub-system to an input/output (I/O) sub-system;

the I/O sub-system including a plurality of I/O interfaces each operable to couple a peripheral device to the multiprocessor system;

the I/O interfaces each including a local memory operable to store a copy of data from the processor memory for use by a corresponding peripheral device and to automatically invalidate the copy at a first time event without notification messaging; and

a directory for the processor memory system, the directory operable to identify the data as owned upon providing the copy to the I/O sub-system and to identify the data as unowned at a second time event.

2. (Original) The multiprocessor system of Claim 1, wherein the first and second time event occur at the same time.

3. (Original) The multiprocessor system of Claim 1, wherein the first and second time event comprise expiration of a predefined period of time after an initiation event.

4. (Original) The multiprocessor system of Claim 1, wherein the network is a scalable network.

5. (Original) The multiprocessor system of Claim 4, wherein the scalable network comprises a plurality of routers.

6. (Original) The multiprocessor system of Claim 1, wherein the processor memory system comprises a plurality of discrete processor memories.

7. (Original) The multiprocessor system of Claim 6, wherein the discrete processor memories are each dedicated to a processor.

8. (Currently Amended) A multiprocessor system, comprising:

a processing sub-system including a plurality of processors and a processor memory system;

a network operable to couple the processing sub-system to an input/output (I/O) sub-system;

the I/O sub-system including a plurality of I/O interfaces each operable to couple a peripheral device to the multiprocessor system;

the I/O interfaces each including a local memory operable to store a copy of data from the processor memory for use by a corresponding peripheral device and to invalidate the copy at a first time event; and

a directory for the processor memory system, the directory operable to identify the data as owned upon providing the copy to the I/O sub-system and to identify the data as unowned at a second time event; ~~The multiprocessor system of Claim 1,~~

wherein the copy of the data is provided to the I/O interface in a exclusive read-only state.

9. (Currently Amended) A method for managing data in an input/output (I/O) interface for a multiprocessor system, comprising:

coupling a plurality of processors to a processor memory system;

coupling a plurality of I/O interfaces to the processor memory system;

coupling a peripheral device to each I/O interface;

storing a copy of data from the processor memory system in an I/O interface for use by a corresponding peripheral device;

automatically invalidating the copy in the I/O interface at a first time event without notification messaging;

identifying the data as owned upon providing the copy to the I/O interface; and

automatically identifying the data as unowned at a second time event.

10. (Original) The method of Claim 9, wherein the first time event and second time event occur at a same time.

11. (Original) The method of Claim 9, wherein the first and second time event comprise expiration of a predefined period of time after an initiation event.

12. (Original) The method of Claim 11, wherein the initiation event comprises a time of initiation of a request for the copy of the data from the processor memory system.

13. (Original) The method of Claim 9, further comprising coupling the I/O interfaces to the processor memory system through a scalable network.

14. (Original) The method of Claim 9, further comprising coupling the I/O interfaces to the processor memory system through a scalable network comprising a plurality of routers.

15. (Original) The method of Claim 9, wherein the processor memory system comprises a plurality of discrete processor memories.

16. (Original) The method of Claim 15, wherein each discrete processor memory is dedicated to a processor.

17. (Currently Amended) A method for managing data in an input/output (I/O) interface for a multiprocessor system, comprising:

coupling a plurality of processors to a processor memory system;

coupling a plurality of I/O interfaces to the processor memory system;

coupling a peripheral device to each I/O interface;

storing a copy of data from the processor memory system in an I/O interface for use by a corresponding peripheral device;

invalidating the copy in the I/O interface at a first time event;

identifying the data as owned upon providing the copy to the I/O interface; and

automatically identifying the data as unowned at a second time event; ~~The method of Claim 9,~~

wherein the copy of the data is provided to the I/O interface in an exclusive read-only state.

18. (Original) A computer system, comprising:
a main system memory operable to store system data;
a remote memory operable to store copies of data from the main system memory for use by a remote device; and
a memory protocol operable to provide a copy of data to the remote memory from the main system memory, to automatically delete the copy from the remote memory after a period of time and to automatically update a status of the data at the main system memory upon expiration of the period of time without notification messaging between the main system memory and the remote memory.

19. (Original) The computer system of Claim 18, wherein the remote memory comprises a local cache of a input/output (I/O) interface for a peripheral device.

20. (Original) The computer system of Claim 18, wherein the copy of the data is provided to the remote memory in an exclusive read-only state.

21. (Currently Amended) A system for managing data at an input/output (I/O) interface for a computer system, comprising:

a computer processable medium; and

logic stored on the computer processable medium, the logic operable to provide a copy of data stored in a system memory to a remote memory, to automatically invalidate the copy in the remote memory after a predefined period of time without notification messaging between the system memory and the remote memory, and to automatically update a status of the data in the system memory after the period of time.

22. (Currently Amended) A system for managing data at an input/output (I/O) interface for a computer system, comprising:

a computer processable medium; and
logic stored on the computer processable medium, the logic operable to provide a copy of data stored in a system memory to a remote memory, to automatically invalidate the copy in the remote memory after a predefined period of time, and to automatically update a status of the data in the system memory after the period of time; ~~The system of Claim 21,~~

wherein the data is provided to the I/O memory in an exclusive read-only state.